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March 25, 2015

Ms. Carol Staniec  
Pretreatment Enforcement Manager  
USEPA Region 5  
77 West Jackson Boulevard  
Chicago, IL 60604-3590

**Subject: Quarterly Monitoring Report October through December 2014  
Northeast Investigation Area, Hanover Park, DuPage County, Illinois  
AECOM Project No. 60241563.5**


Dear Ms. Staniec:

Enclosed please find the October through December 2014 Quarterly Monitoring Report for the Northeast Investigation Area (NE Area) in Hanover Park, Illinois. This report was prepared by AECOM Technical Services, Inc. (AECOM) on behalf of BFI Waste Systems of North America, LLC (BFI) and the Forest Preserve District of DuPage County (FPDDC) and is being submitted pursuant to the Soil Equilibrium Test Report which was approved by U.S. Environmental Protection Agency (EPA) on May 17, 2011.

The report provides monitoring data and assessment pursuant to the NE Area Trigger System for additional corrective action. Based on data collected during the 4<sup>th</sup> quarter 2014, no corrective action was necessary in the NE Area.

As discussed in Section 5 of the quarterly report, monitoring data indicate monitoring probes have met criteria for abandonment. Requests for probe abandonments have been included in quarterly reports since the 1<sup>st</sup> quarter 2012. A separate formal request to abandon probes ML-06D, ML-08D, ML-09D, ML-9S, ML-10D, and ML-17 was submitted to USEPA on March 31, 2014. Your response to this request would be appreciated. Please contact Jeff Maletzke at (920) 451-2541 or [jeff.maletzke@aecom.com](mailto:jeff.maletzke@aecom.com).

Yours sincerely,

  
Hilary Taghnap  
Staff Geologist

  
Jeffrey D. Maletzke, PG  
Project Manager

c: Mr. James Hitzeroth, BFI  
Mr. Joseph Benedict, FPDDC  
Ms. Michelle Kaysen, USEPA  
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Ms. Joy Hinz, DuPage County  
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Mr. Michael Zapinski, P.E., AECOM



Prepared for:  
BFI Waste Systems of North America, LLC  
Hanover Park, IL

Prepared by:  
AECOM  
Warrenville, IL  
60241563  
March 2015

# Quarterly Report October through December 2014

Northeast Investigation Area  
Hanover Park, DuPage County, Illinois

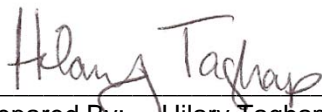


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# Quarterly Report October through December 2014

Northeast Investigation Area  
Hanover Park, DuPage County, Illinois

  
Prepared By: Hilary Taghap

  
Reviewed By: Jeffrey D. Maletzke, PG

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## List of Acronyms

BFI	BFI Waste Systems of North America, LLC
FPDDC	Forest Preserve District of DuPage County
GEM	Landtec GEM2000
IEPA	Illinois Environmental Protection Agency
MLL	Mallard Lake Landfill
USEPA	United States Environmental Protection Agency
WBDR	West Branch of the DuPage River

**Document Certification**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: Jevon Herman

Name: JEVON HERMAN

Title: Area President / Vice President

Date: 3/25/15

**Document Certification**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: 

Name: JOSEPH R. BENEDICT

Title: DIRECTOR

Date: 3/30/15

## 1.0 Introduction

### 1.1 Purpose

This quarterly monitoring report documents field activities and monitoring data obtained from October through December ("4th quarter") in the Northeast Investigation Area, Hanover Park, Illinois ("NE Area"). This report presents gas probe monitoring data collected during the 4<sup>th</sup> quarter 2014 monitoring period, a map of the existing monitoring probe network, and graphical analyses of gas concentrations and static pressures in monitoring probes with methane detections.

### 1.2 Site Location

The NE Area encompasses the area directly east of the West Branch of the DuPage River ("WBDR") to the western edge of Greenbrook Elementary School, and from the southern portion of Heritage Park to the northeast corner of the permitted boundary of the Mallard Lake Landfill property (**Figure 1**). The NE Area is located primarily on Mallard Lake Forest Preserve property owned by the Forest Preserve District of DuPage County ("FPDDC") and partially on property owned by Keeneyville Elementary School District 20.

### 1.3 Corrective Action Status

Remedial corrective actions in the NE Area are being conducted simultaneously with off-site remedial actions adjacent to the Mallard Lake Landfill (MLL). The following summarizes key correspondence to the United States Environmental Protection Agency (USEPA) that has contributed to the current monitoring and reporting program:

October 29, 2010 – AECOM submits the Soil Equilibrium Test Evaluation Report for the Greenbrook School Investigation Area.

November 17, 2010 – AECOM abandons the 19 gas monitoring probes in the School Area as approved by USEPA.

January 18, 2011 – USEPA provides comments on the Soil Equilibrium Test Evaluation Report.

February 8, 2011 – AECOM submits proposed sampling and monitoring program pursuant to Illinois EPA (IEPA) request during the January 27, 2011, site status meeting.

March 1, 2011 – USEPA grants conditional approval of the sampling and monitoring schedule proposed in AECOM's February 8, 2011 letter.

March 3, 2011 – AECOM submits responses to USEPA comments on the Soil Equilibrium Test Evaluation Report including a revised Tiered Trigger System for future remedial activities.

May 17, 2011 – USEPA approves the Soil Equilibrium Test Evaluation Report submitted on October 29, 2010, and associated responses to comments dated January 18, 2011.



January 16, 2012 – AECOM requests abandonment of probes ML-08D, ML-09D, and ML-10D in conjunction with submitting the Quarterly Monitoring Report October through December 2011 (4<sup>th</sup> Quarter 2011) for the Northeast Investigation Area.

April 5, 2012 – AECOM reiterates request to abandon probes ML-08D, ML-09D, and ML-10D, as well as additional probes ML-06S, ML-06D, ML-09S, ML-09I, and ML-17 in conjunction with submitting the Quarterly Monitoring Report January through March 2012 (1<sup>st</sup> Quarter 2012) for the Northeast Investigation Area. This request is reiterated in both the 2<sup>nd</sup> and 3<sup>rd</sup> quarter 2012 reports.

May 20, 2012 – AECOM submits Quarterly Monitoring Report October through December 2012 (4<sup>th</sup> Quarter 2012) and reiterates request to abandon probes consistent with previous quarterly reports. However, probe ML-06S is dropped from the request.

June 28, 2013 – AECOM submits Quarterly Monitoring Report January through March 2013 (1<sup>st</sup> Quarter 2013) acknowledging re-evaluation of previously proposed modifications to the Northeast Area monitoring network. However, the report reiterates that monitoring data continue to indicate that probes ML-08D, ML-09D, and ML-10D are not necessary in the monitoring program and reiterates the request for abandonment of ML-17.

August 20, 2013 – AECOM reiterates request to abandon probes ML-06D, ML-08D, ML-09D, ML-09S, ML-10D, and ML-17 in conjunction with submitting the Quarterly Monitoring Report April through June 2013 (2<sup>nd</sup> Quarter 2013) for the Northeast Investigation Area. This request also appears in the 3<sup>rd</sup> quarter 2013 report.

March 31, 2014 – AECOM submits request to USEPA to abandon probes ML-06D, ML-08D, ML-09D, ML-09S, ML-10D, and ML-17. This request was submitted as a letter rather than in conjunction with a quarterly monitoring report.

## 2.0 Monitoring

A total of 29 monitoring locations comprise the current network in the NE Area and are listed in **Table 1** and shown on **Figure 1**. This monitoring probe network is monitored on a monthly and quarterly basis as listed in **Table 1** for methane, carbon dioxide, oxygen, balance gas, and static pressure. The monitoring frequency listed in **Table 1** is consistent with the monitoring program proposed in AECOM correspondence dated February 8, 2011, and approved by USEPA in correspondence dated March 1, 2011. The March 1, 2011 USEPA approval also requested that probe ML-08I be monitored on a “more frequent basis” due to elevated soil gas pressures from late 2010 through early 2011. AECOM has extended the “more frequent than quarterly” monitoring to probes ML-29 and ML-29S due to their proximity to Greenbrook Elementary School and past detections of combustible gas at probe ML-29.

During the 4<sup>th</sup> quarter 2014 reporting period, 26 monitoring probes were tested on a quarterly basis. Monitoring probes ML-08I, ML-29 and ML-29S were all monitored monthly. A summary of the 4<sup>th</sup> quarter 2014 monitoring data is presented in **Table 2**. Historical graphical analyses of the quarterly monitoring data for probes with methane detections greater than 1% during the last six quarterly monitoring events are presented in **Appendix A** with supporting tabular data presented in **Appendix B**.

Soil gas monitoring is performed by attaching a Landtec GEM2000 (“GEM”) portable landfill gas meter to the probe or well and initially measuring static pressure in the probe or well. The GEM is then run for either up to 3 minutes or a shorter duration if the methane concentration stabilizes. Following the GEM monitoring, the probe or well is opened for a water level measurement, as needed.

### 3.0 Corrective Action Measures Update

On May 17, 2011, the USEPA approved the use of a Tiered Response System ("Trigger System") initially outlined in the Soil Equilibrium Report (AECOM, 2010) to evaluate gas probe monitoring data and to provide a rationale for whether or not additional corrective action is needed. The Trigger System is presented in **Figure 2**. In the May 17, 2011 correspondence, USEPA also approved the use of alternate remedial activities including the use of a mobile mini-flare and potential installation of a passive gas exchange system, should monitoring data indicate corrective action is necessary.

The monitoring data collected during the 4<sup>th</sup> quarter 2014 monitoring period continue to indicate static headspace pressures below the Level 1 Trigger criteria. Therefore, no corrective action has been required in the NE Area during the 4<sup>th</sup> quarter 2014 reporting period.

## 4.0 Quarterly Data Evaluation

Gas monitoring probe data from the NE Area generally indicate methane concentrations and static pressures that are consistent with previous reporting periods. Monitoring data at 22 of the 29 monitoring locations which comprise the current network have not detected methane during the 4<sup>th</sup> quarter 2014 reporting period. One location, ML-19, could not be found due to overgrown vegetation and was not measured during the 4<sup>th</sup> quarter 2014 monitoring period. Historically, methane concentrations at ML-19 have been below the detection limit of the GEM2000 ( $\pm 0.3\%$  by volume).

The remaining six monitoring locations ( of the 29 total) comprising the current monitoring network have indicated methane concentrations above the detection limit ( $\pm 0.3\%$  by volume) during the 4<sup>th</sup> quarter 2014 monitoring period. These locations include: LDE-13, ML-06I, ML-08I, ML-10I, ML-13I, and ML-23.

Historical graphical analyses are presented in **Appendix A** for probes with greater than 1% methane during any of the last six quarterly monitoring events. These locations include: LDE-13, ML-06I, ML-08I, ML-08S, ML-09I, ML-10I, ML-13I, ML-13S, ML-20, ML-23, ML-29, and MW-204ES. The graphical analyses indicate relatively stable methane concentrations over the last six quarters of monitoring at ML-8S, ML-09I, ML-13I, ML-13S, ML-20, ML-29, and MW-204ES. Both ML-09I and MW-204ES show increases in methane concentrations during the 4<sup>th</sup> quarter 2013. However, these methane concentrations decreased after the 4<sup>th</sup> quarter 2013 and have remained stable throughout 2014. The graphical analysis for probe LDE-13 indicates stable methane concentrations for the last two consecutive monitoring periods. The graphical analysis for probe ML-06I indicates relatively stable methane concentrations since the 4<sup>th</sup> quarter 2013 monitoring period. The remaining three locations are discussed below.

### ML-23

The methane concentrations in ML-23 decreased during the 4<sup>th</sup> quarter 2014 monitoring period. In addition, static pressure readings remained below 20 inches of water column. Therefore, no remedial action is required at this time for ML-23.

### ML-10I

The methane concentrations in ML-10I increased during the 4<sup>th</sup> quarter 2014 monitoring period. The methane concentration detected in this probe is consistent with historical methane concentrations detected during the 2<sup>nd</sup> quarter 2014 monitoring period. In addition, static pressure readings remained below 20 inches of water column at ML-10I. Therefore, no remedial action is required at this time for ML-10I.

### ML-08I

Pursuant to the USEPA approved monitoring program, probe ML-08I is to be monitored monthly based on elevated headspace pressures observed from the 3<sup>rd</sup> quarter 2010 through 1<sup>st</sup> quarter 2011 monitoring events. Headspace pressure at probe ML-08I continues to be less than 20 inches of water column during the 4<sup>th</sup> quarter 2014 monitoring period. In addition, methane concentrations remain consistent with historical concentrations. These data indicate continued stabilization at probe ML-08I

for headspace pressure and methane concentrations during the reporting period. Static pressures remain below Trigger System criteria and outward flow is not sustainable. Therefore, no remedial action is required at probe ML-08I.

## 5.0 Proposed Modifications to Monitoring Network

Based on the data collected in the NE Area during the 4<sup>th</sup> quarter 2014 reporting period the current gas probe monitoring network was evaluated to determine whether modifications to the network are appropriate. As discussed in Section 4.0, a total of 22 monitoring probes in the NE Area did not detect the presence of methane above the detection limit of the Landtec GEM2000. Fourteen of these probes have yielded methane detections less than 0.2% by volume for at least six consecutive quarters (ML-06D, ML-08D, ML-09D, ML-09S, ML-10D, ML-14, ML-17, ML-18, ML-19, ML-24, ML-26S, ML-32, ML-37, and ML-38). The following discussion includes probes that could be abandoned based on previous requests (included in previous quarterly report submittals) to modify the gas probe monitoring network in the NE Area using the adopted standard of less than 0.2% methane by volume for at least four consecutive quarters, and consideration of the probe location and screened interval. The 0.2% methane by volume standard for abandoning a probe remains in-line with 35 IAC 811.310(c)4 which requires methane concentrations to be less than 5% of the lower explosive limit (0.25% by volume) in air for four consecutive quarters.

As discussed in the last 12 quarterly reports, three probes that did not indicate methane concentrations above the detection limit are screened within a different stratigraphic unit from the other probes in the NE Area monitoring network. These probes include ML-08D, ML-09D and ML-10D. It should be noted that groundwater levels in each of these probes have saturated the screened stratigraphic unit for quite some time. These hydrogeologic conditions have likely prevented potential migration of methane within the groundwater system. The nested probes ML-08D, ML-09D and ML-10D were initially installed to delineate potential methane migration through stratigraphic units that lie beneath the W1/W2 unit, the stratigraphic horizon identified as the primary migration pathway in the NE Area. The lack of methane detections in these “watered out” probes demonstrates that they are no longer necessary to the monitoring program. Monitoring data collected in the 4<sup>th</sup> quarter 2014 monitoring period continue to indicate these probes are not necessary in the monitoring program.

In addition, monitoring data at probes ML-06D and ML-09S indicate at least 12 consecutive monitoring rounds of methane detections less than 0.2% by volume. High groundwater levels (i.e., above the top of the screen) in probe ML-06D are consistent with the conditions noted for probes ML-08D, ML-09D, and ML-10D.

Monitoring probe ML-17 was not accessible 2<sup>nd</sup> quarter 2012 through 1<sup>st</sup> quarter 2013. Measurements recorded during the six most recent quarters of monitoring, as well as the five monitoring events prior to the 2<sup>nd</sup> quarter 2012 (1<sup>st</sup> quarter 2011 through 1<sup>st</sup> quarter 2012) indicate no methane detections. Monitoring data for the 2<sup>nd</sup> quarter 2014 indicated a higher groundwater level (relative to previous several quarters) above the top of the probe screen. ML-17 is located in a lower elevation area where water, ice, and sediment often accumulate. Because of its location and the fact that previous measurements have not detected methane, probe ML-17 could be removed from the monitoring program.

A formal request to abandon probes ML-06D, ML-08D, ML-09D, ML-10D, ML-09S, and ML-17 was submitted to USEPA on March 31, 2014. The data from these probes demonstrate that they are no longer necessary for the monitoring program.

Upon USEPA approval and concurrence with the FPDCC, the probes will be abandoned utilizing a cut and fill procedure consistent with 77 IAC 920.120 subject to the following. Abandonments will be conducted by filling the probes with 3/8-inch diameter coated bentonite pellets and removing the upper 2 to 3 feet of the PVC riser. This method is similar to abandonments conducted pursuant to the October 27, 2010 USEPA approval. After the probe is properly abandoned, the surface around the probe will be re-seeded and restored pursuant to direction of the FPDDC standards.

Monitoring of these probes will continue pursuant to the USEPA approved program presented in **Table 1** until the abandonments are approved. In the event that monitoring data at these probes indicate that remedial action is required pursuant to the NE Area Trigger System, the abandonment request will be withdrawn.

## 6.0 References Cited

AECOM, 2010. Soil Equilibrium Test Evaluation Report, Greenbrook School Investigation Area, Hanover Park, IL. AECOM Project No. 60151902.



## Tables

**Table 1**  
**Northeast Area Monitoring Network and Frequency**  
**Hanover Park, DuPage County, Illinois**

Probe or Well	4th Quarter 2014 Monitoring Frequency	1st Quarter 2015 Monitoring Frequency	Monitoring Frequency Notes
ML-06D	Quarterly	Quarterly	Request for abandonment submitted to USEPA on 3/31/2014
ML-06I	Quarterly	Quarterly	
ML-06S	Quarterly	Quarterly	
ML-08D	Quarterly	Quarterly	Request for abandonment submitted to USEPA on 3/31/2014
ML-08I	Monthly	Monthly	Monthly monitoring per USEPA request
ML-08S	Quarterly	Quarterly	
ML-09D	Quarterly	Quarterly	Request for abandonment submitted to USEPA on 3/31/2014
ML-09I	Quarterly	Quarterly	
ML-09S	Quarterly	Quarterly	Request for abandonment submitted to USEPA on 3/31/2014
ML-10D	Quarterly	Quarterly	Request for abandonment submitted to USEPA on 3/31/2014
ML-10I	Quarterly	Quarterly	
ML-10S	Quarterly	Quarterly	
ML-13I	Quarterly	Quarterly	
ML-13S	Quarterly	Quarterly	
ML-14	Quarterly	Quarterly	Qualifies for abandonment based on <0.2% methane for at least four consecutive quarters.
ML-17	Quarterly	Quarterly	Request for abandonment submitted to USEPA on 3/31/2014
ML-18	Quarterly	Quarterly	Qualifies for abandonment based on <0.2% methane for at least four consecutive quarters.
ML-19	Quarterly	Quarterly	Qualifies for abandonment based on <0.2% methane for at least four consecutive quarters.
ML-20	Quarterly	Quarterly	
ML-23	Quarterly	Quarterly	
ML-24	Quarterly	Quarterly	Qualifies for abandonment based on <0.2% methane for at least four consecutive quarters.
ML-26S	Quarterly	Quarterly	Qualifies for abandonment based on <0.2% methane for at least four consecutive quarters.
ML-29	Monthly	Monthly	Monthly monitoring due to proximity to school building
ML-29S	Monthly	Monthly	Monthly monitoring due to proximity to school building
ML-32	Quarterly	Quarterly	Qualifies for abandonment based on <0.2% methane for at least four consecutive quarters.
ML-37	Quarterly	Quarterly	Qualifies for abandonment based on <0.2% methane for at least four consecutive quarters.
ML-38	Quarterly	Quarterly	Qualifies for abandonment based on <0.2% methane for at least four consecutive quarters.
MW-204ES	Quarterly	Quarterly	
LDE-13	Quarterly	Quarterly	

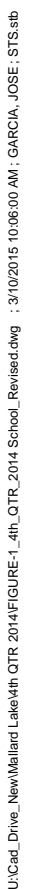
Table 2  
Summary of 4th Quarter 2014 Monitoring Data - NE Area  
Mallard Lake Landfill, Hanover Park, DuPage County, IL  
AECOM No. 60241563.5

Probe	Date	Time of measurement	Static Pressure (inches H2O)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Balance Gas (%)	Post Purge Pressure (inches H2O)	Depth to Water (bMV)	Elevation of Groundwater Surface (ft MSL)	Elevation of Top of Screen (ft MSL)	Elevation of Bottom of Screen (ft MSL)	Measured Flow	Qualifier
LDE-13	19-Nov-14	11:34	1.2	80.5	13.3	1.4	4.8	-1.9	48.40 dry	750.83	777.3	747.3	<1 SCFH	
ML-06D	19-Nov-14	10:42	0.0	0.0	0.8	18.4	80.8	-10.8	43.20	749.36	745.0	740.0		
ML-06I	19-Nov-14	10:33	-0.8	86.6	13.3	0.1	0.0	-5.0	39.95	752.20	769.5	750.3	<1 SCFH	
ML-06S	19-Nov-14	10:38	0.0	0.0	6.7	15.8	77.5	-4.8	14.20	778.02	787.3	777.5		
ML-08D	17-Nov-14	11:28	0.0	0.0	1.7	19.2	79.1	-17.5	39.60	751.40	744.2	724.6		
ML-08I	17-Nov-14	11:10	2.5	77.9	20.4	1.7	0.0	-6.9	35.90	754.91	771.2	751.6	<1 SCFH	
ML-08S	17-Nov-14	11:22	0.6	0.0	1.9	19.7	78.4	-5.4	12.50	778.46	788.3	773.6		
ML-09D	19-Nov-14	10:15	0.1	0.0	0.4	20.7	78.9	-12.6	47.40	746.43	733.6	724.0		
ML-09I	19-Nov-14	10:28	0.0	0.0	0.2	20.7	79.1	-4.2	39.00	754.88	770.0	750.4		
ML-09S	19-Nov-14	10:20	0.0	0.0	2.5	17.8	79.7	-4.8	12.80	781.06	788.1	773.4		
ML-10D	19-Nov-14	11:43	0.1	0.0	1.4	19.4	79.2	-13.7	51.40	746.23	732.5	722.9		
ML-10I	19-Nov-14	11:47	3.1	44.0	9.1	2.3	44.6	-1.5	44.20	753.62	771.7	752.3		
ML-10S	19-Nov-14	11:40	0.1	0.0	1.7	19.4	78.9	-5.6	13.03	784.56	795.0	775.4		
ML-13I	19-Nov-14	11:22	0.7	2.5	6.9	4.0	86.6	-2.8	46.66	753.67	763.3	753.3		
ML-13S	19-Nov-14	11:18	-0.6	0.7	6.6	8.0	84.7	-14.0	26.90	773.59	780.4	770.4		
ML-14	19-Nov-14	10:06	0.0	0.0	0.2	21.6	78.2	-5.3	2.00	797.09	771.8	752.2		
ML-17	19-Nov-14	10:59	0.0	0.0	5.0	9.2	85.8	-5.7	26.60	753.92	763.3	743.7		
ML-18	19-Nov-14	10:52	0.1	0.0	0.3	20.4	79.3	-9.0	5.60	764.11	764.6	749.8		
ML-19	19-Nov-14	11:04	NM	NM	NM	NM	NM	NM	NM	NM	773.1	763.1		Could not find.
ML-20	19-Nov-14	9:52	0.4	0.0	0.4	21.4	78.2	-15.0	48.30	749.09	757.8	747.8		
ML-23	19-Nov-14	11:28	0.0	8.6	9.8	4.8	76.8	-7.1	37.62	759.59	780.7	766.0	<1 SCFH	
ML-24	17-Nov-14	13:57	-0.5	0.0	0.7	19.1	80.2	-23.7	19.50	768.15	770.1	765.1		
ML-26S	17-Nov-14	14:04	-3.6	0.0	0.8	19.6	79.6	-38.0	13.60	766.80	760.3	755.3		
ML-29	17-Nov-14	13:50	0.5	0.0	6.6	2.7	90.7	-7.0	18.73	769.73	772.8	767.8		
ML-29S	17-Nov-14	13:45	0.0	0.0	0.2	19.4	80.4	-17.7	4.25	784.17	780.7	775.7		
ML-32	19-Nov-14	9:46	2.5	0.0	5.4	0.3	94.3	-3.6	22.60	774.25	777.2	767.2		
ML-37	19-Nov-14	12:04	0.3	0.0	0.3	20.0	79.7	-31.3	6.40	769.80	778.1	768.1		
ML-38	19-Nov-14	12:09	0.2	0.0	6.7	5.2	88.1	-22.0	9.00	776.09	766.2	756.2		
MW-204ES	19-Nov-14	11:06	0.0	0.0	3.7	16.5	79.8	-7.5	16.47	755.80	768.2	753.4		

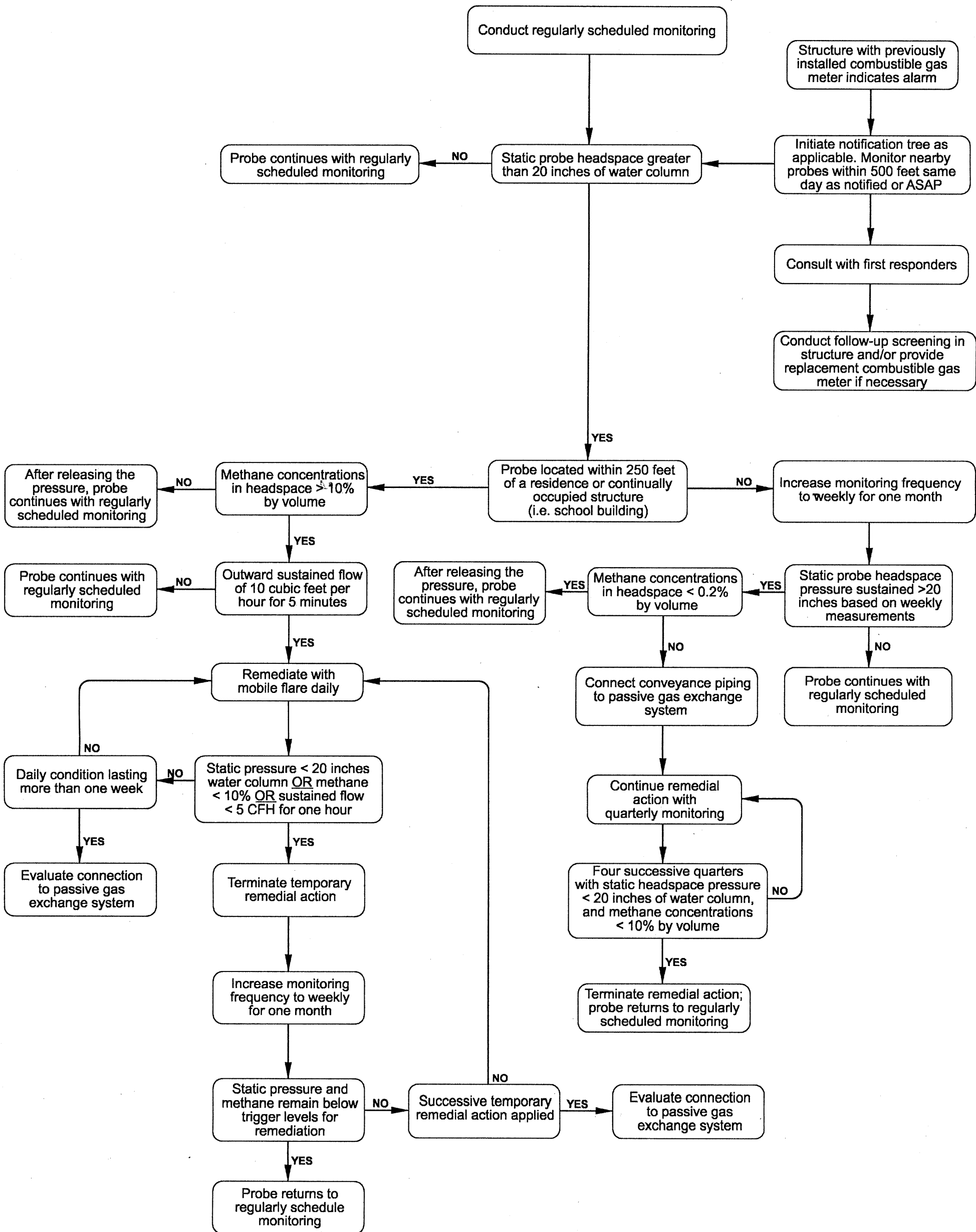
## Figures



Drawn :	JG	01/09/15
Checked:	HMT	01/09/15
Approved:	HMT	01/09/15
PROJECT NUMBER	60241563	
FIGURE NUMBER	1	





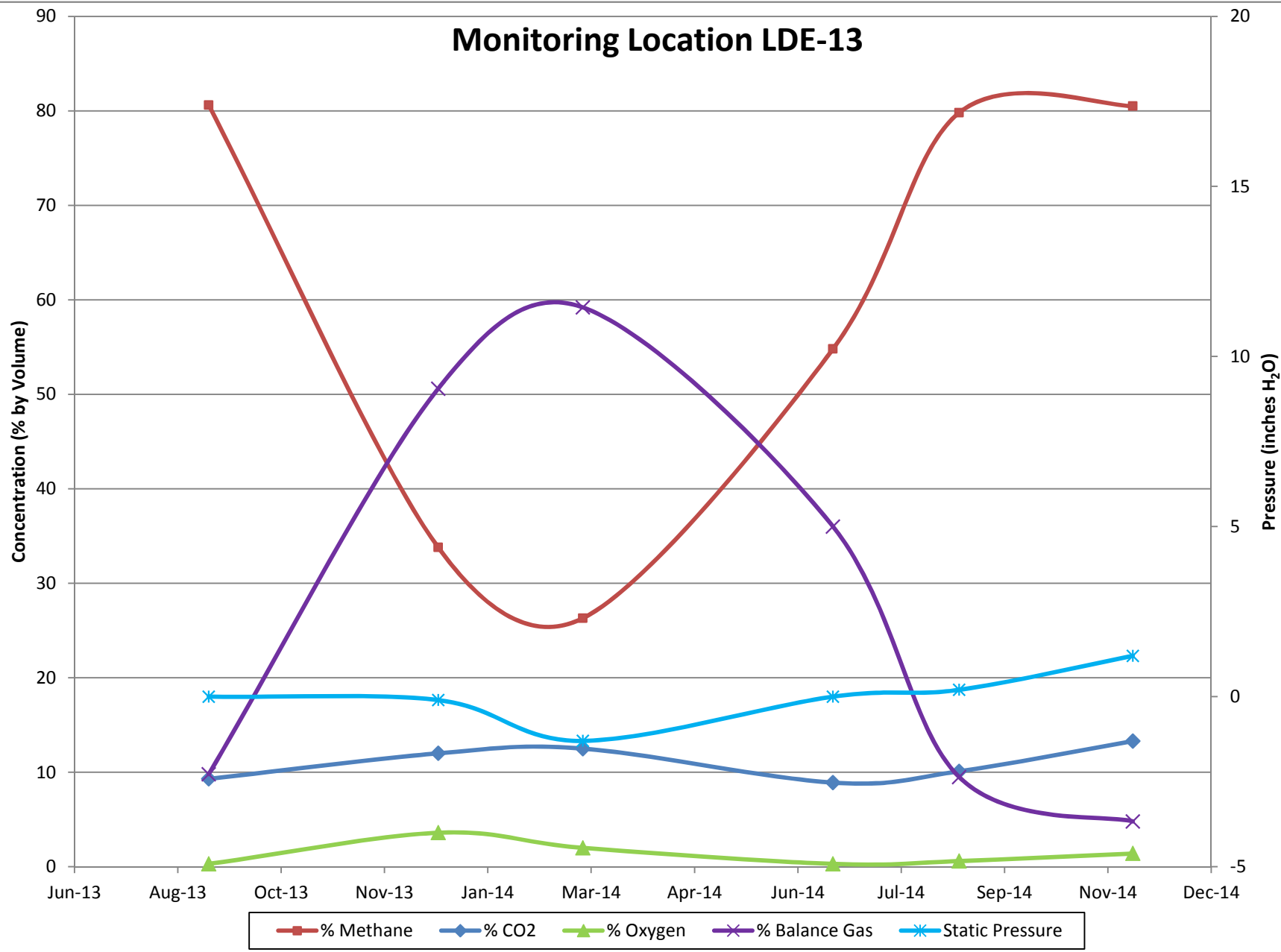


Note: If probe requiring temporary remediation is located less than 200 feet from the previously delineated boundary of methane detections and has not historically indicated the presence of methane, an evaluation should be conducted addressing the potential presence of combustible gas outside the monitored area and a work plan prepared to delineate the potential extent of methane as appropriate.

## **Appendix A**

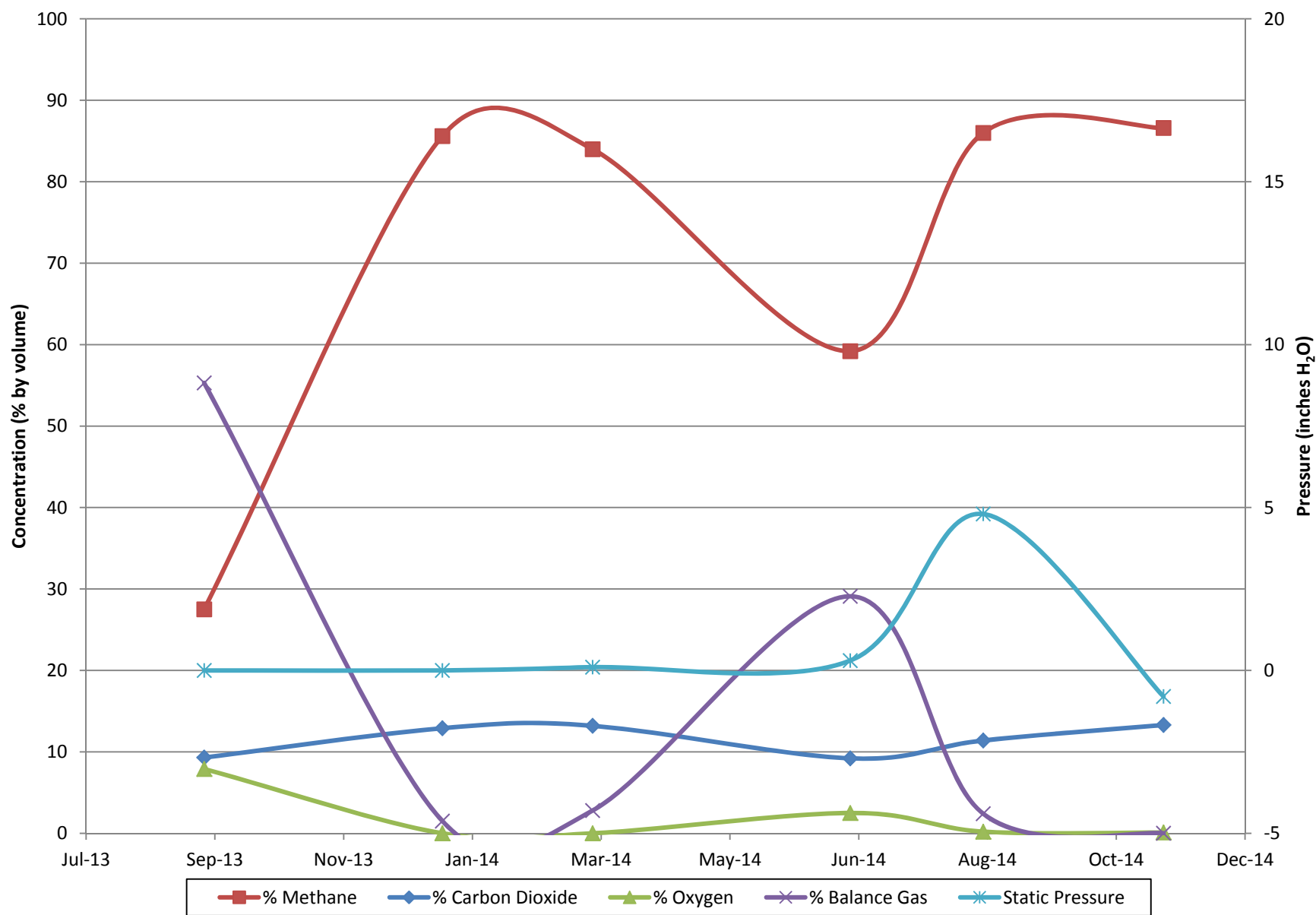
### **Methane and Pressure Graphs**

## Monitoring Location LDE-13

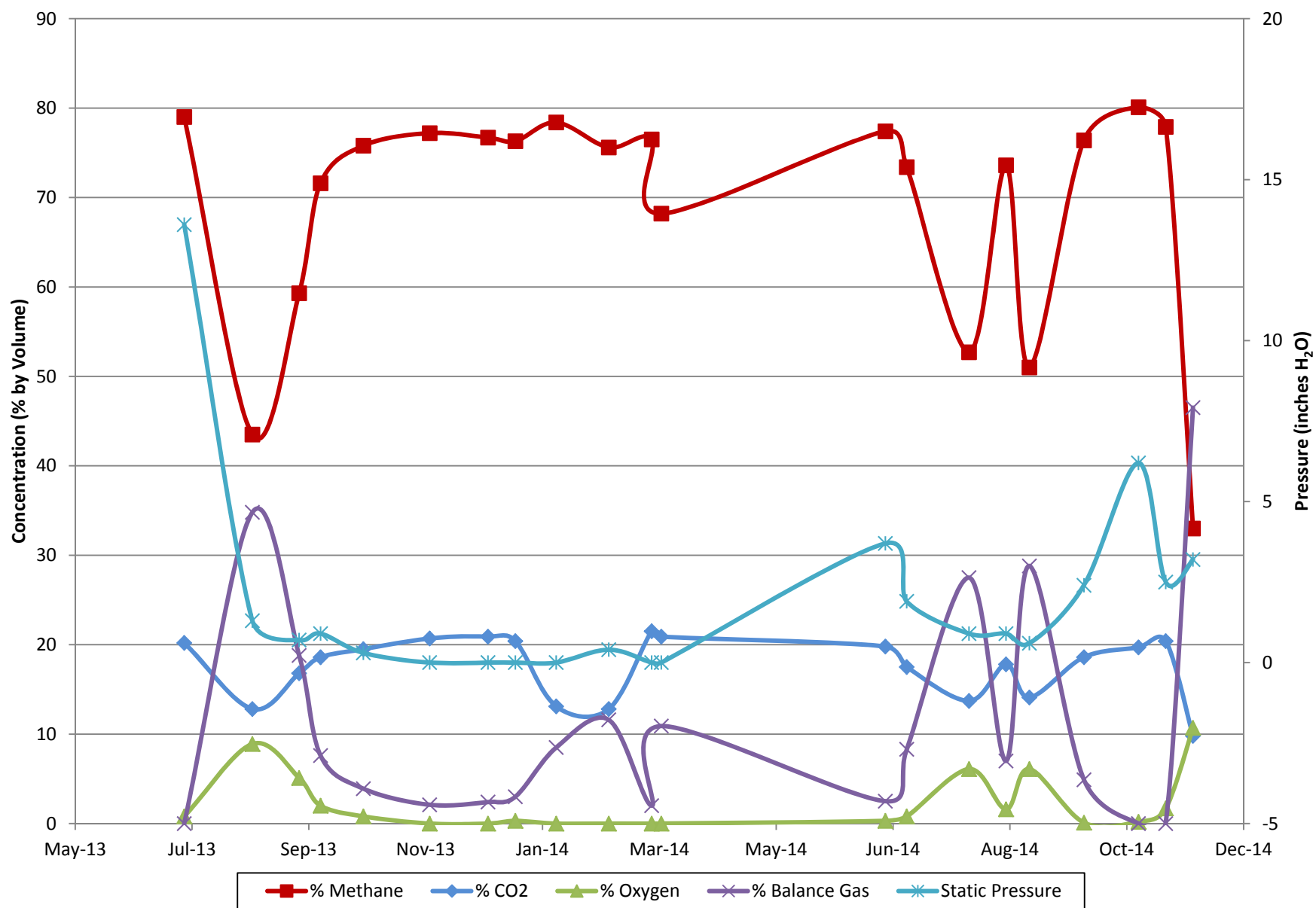




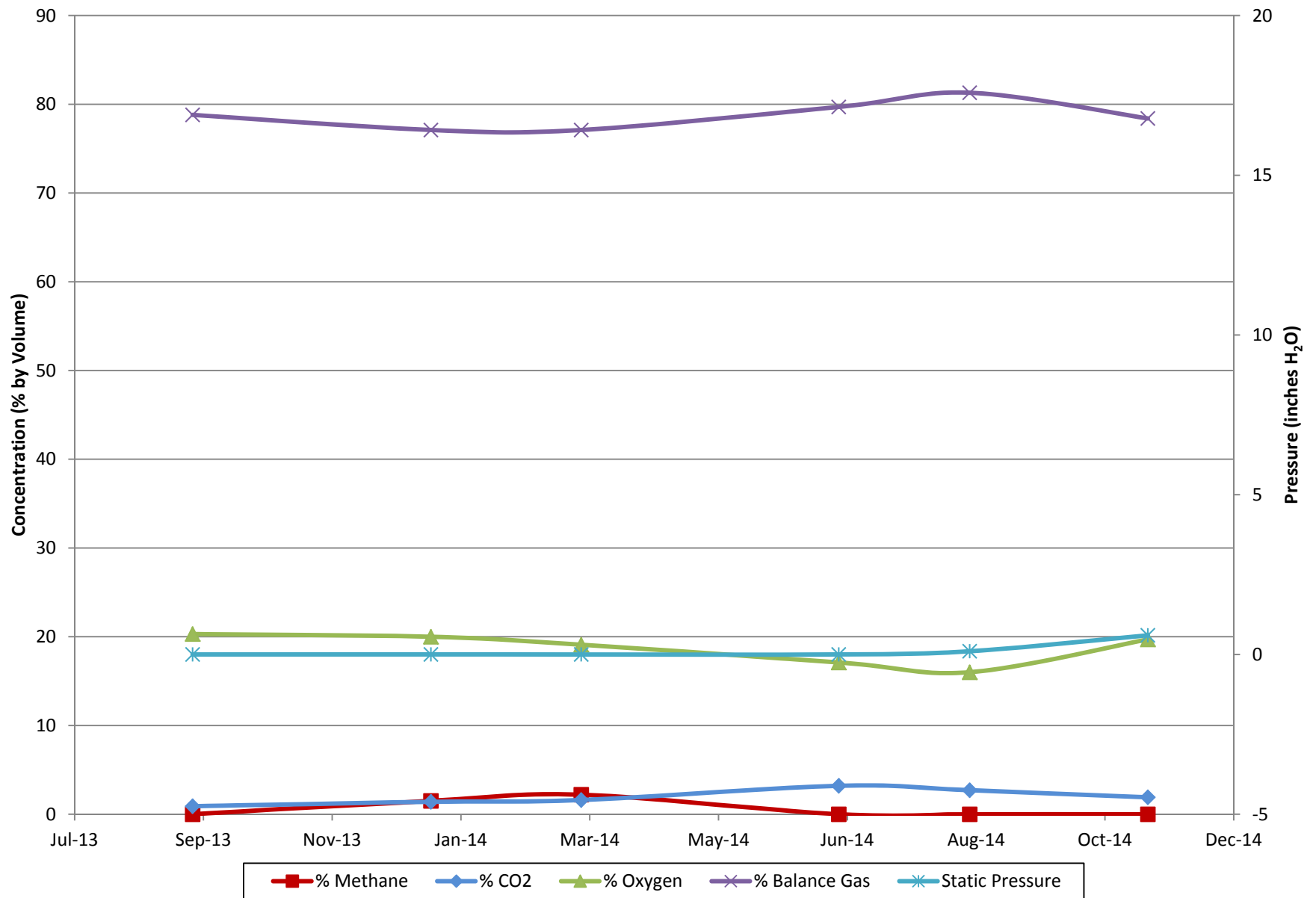
## Monitoring Location ML-06I



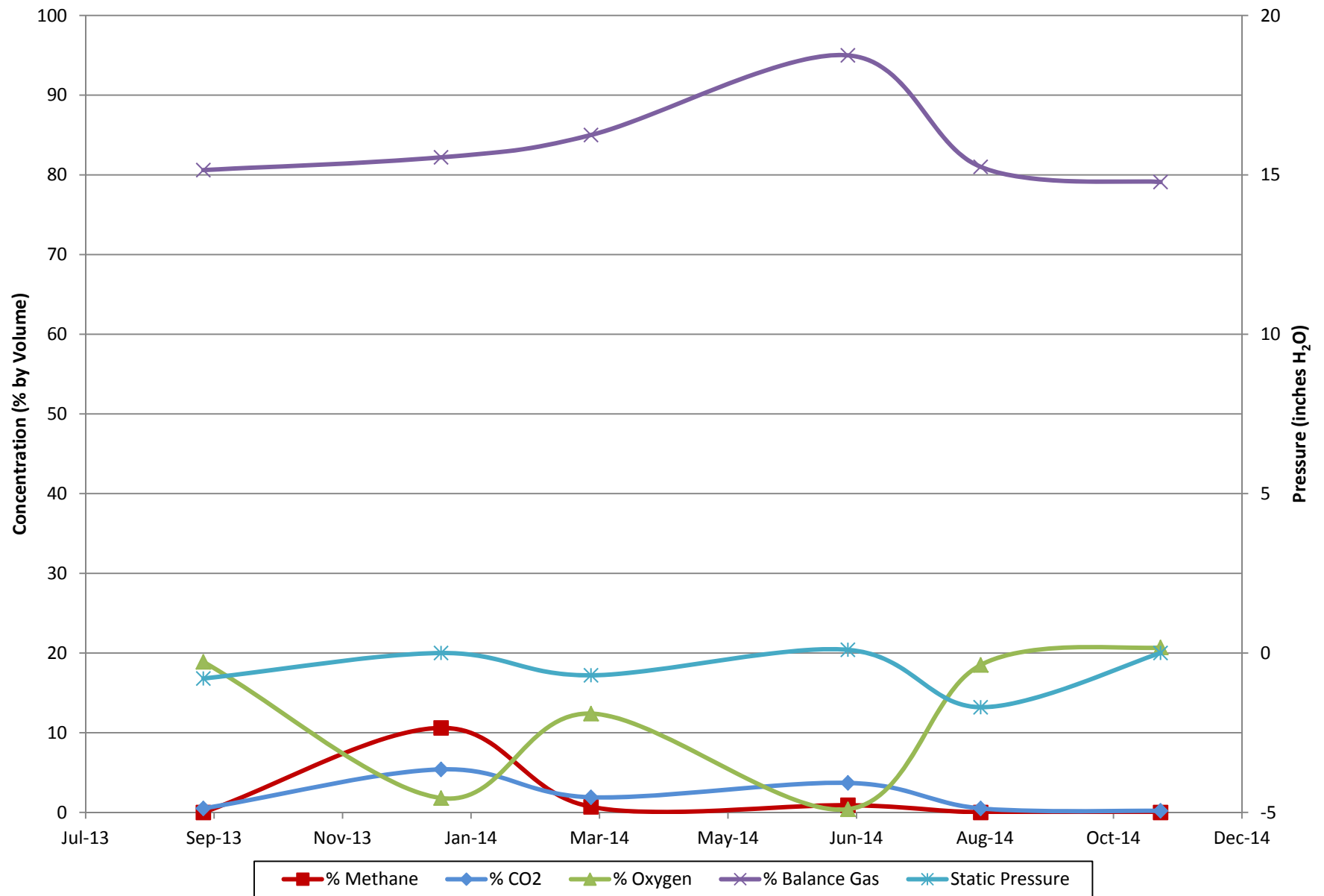
## Monitoring Location ML-08I



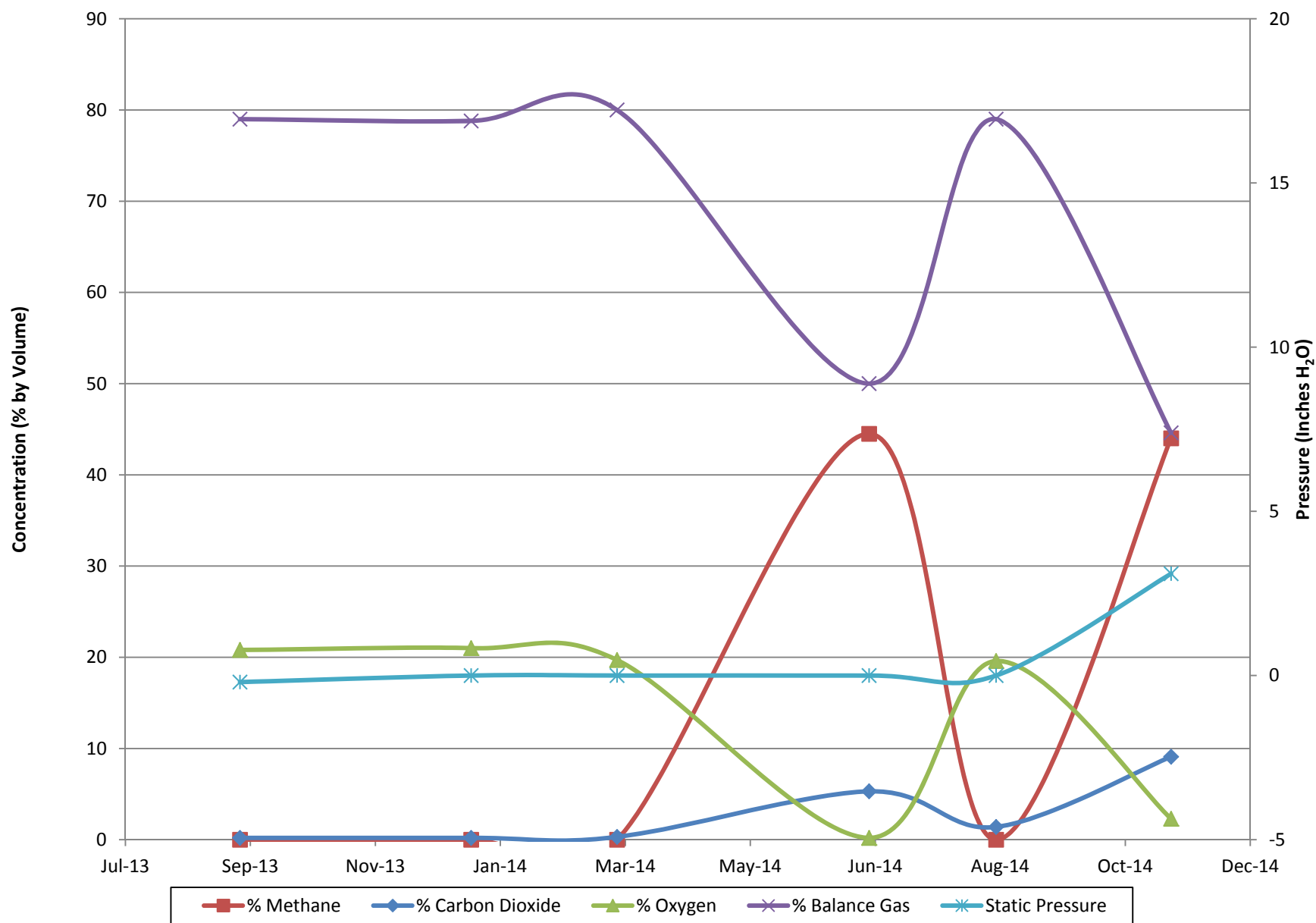
## Monitoring Location ML-08S



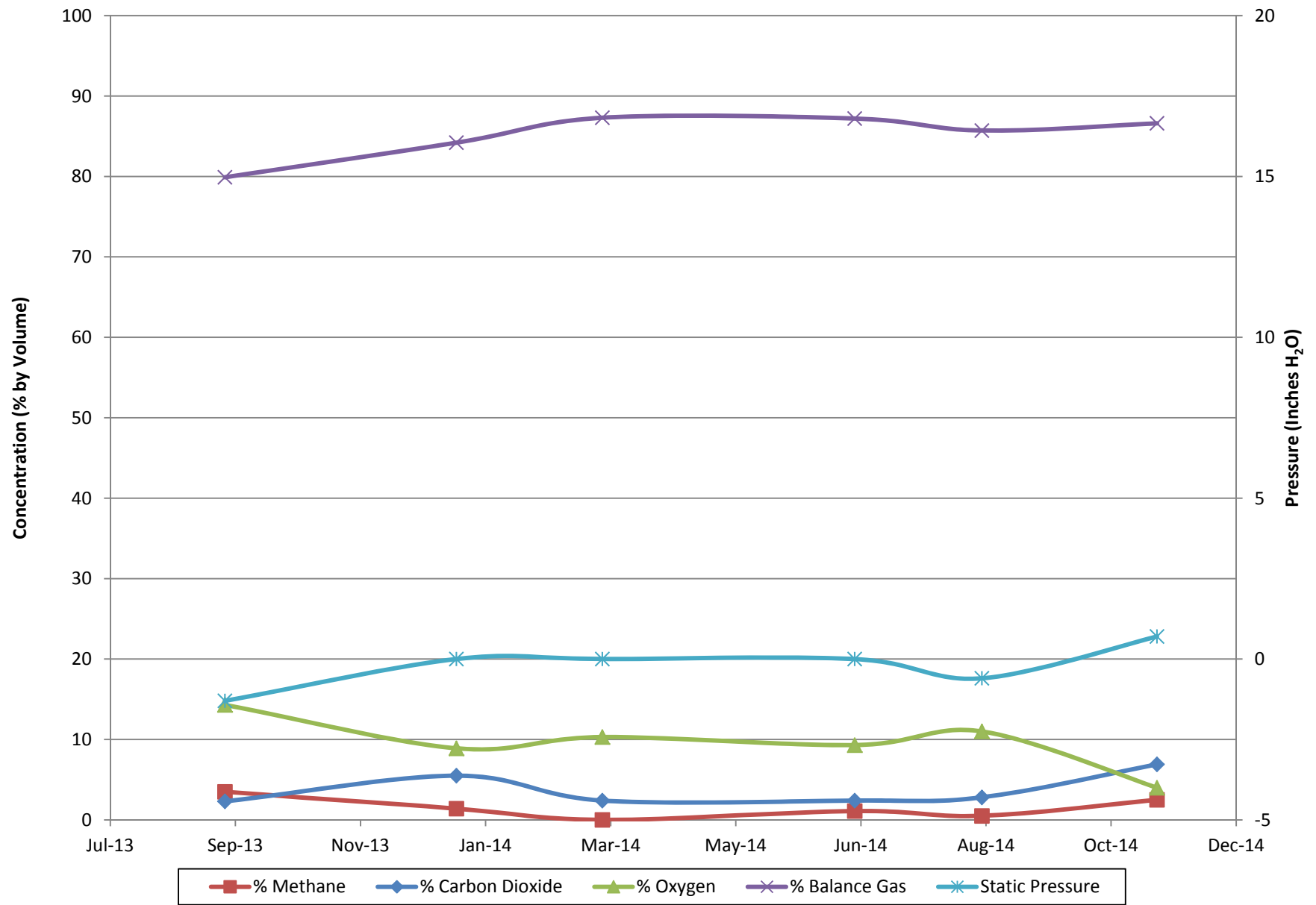
## Monitoring Location ML-09I



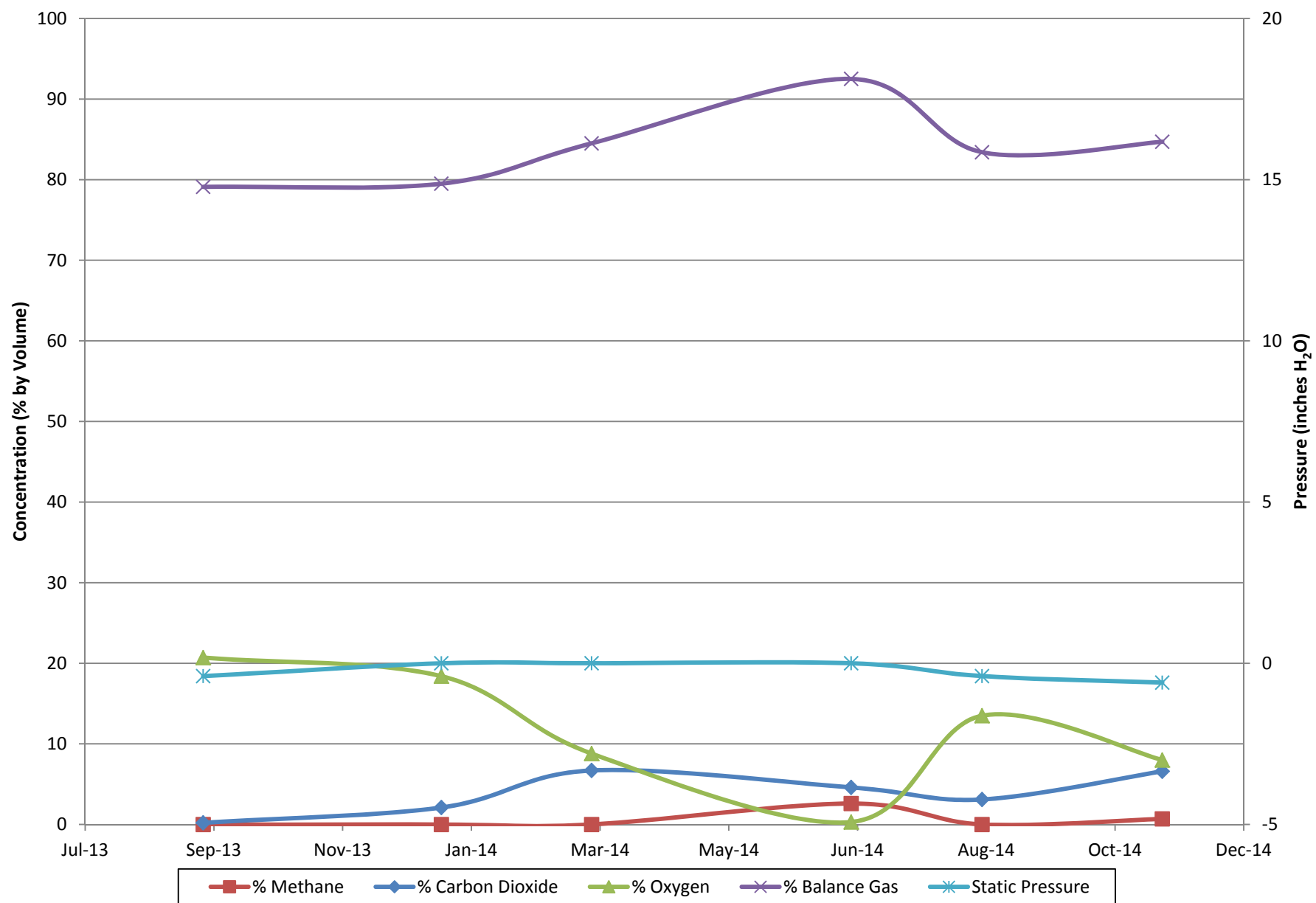
## Monitoring Location ML-10I

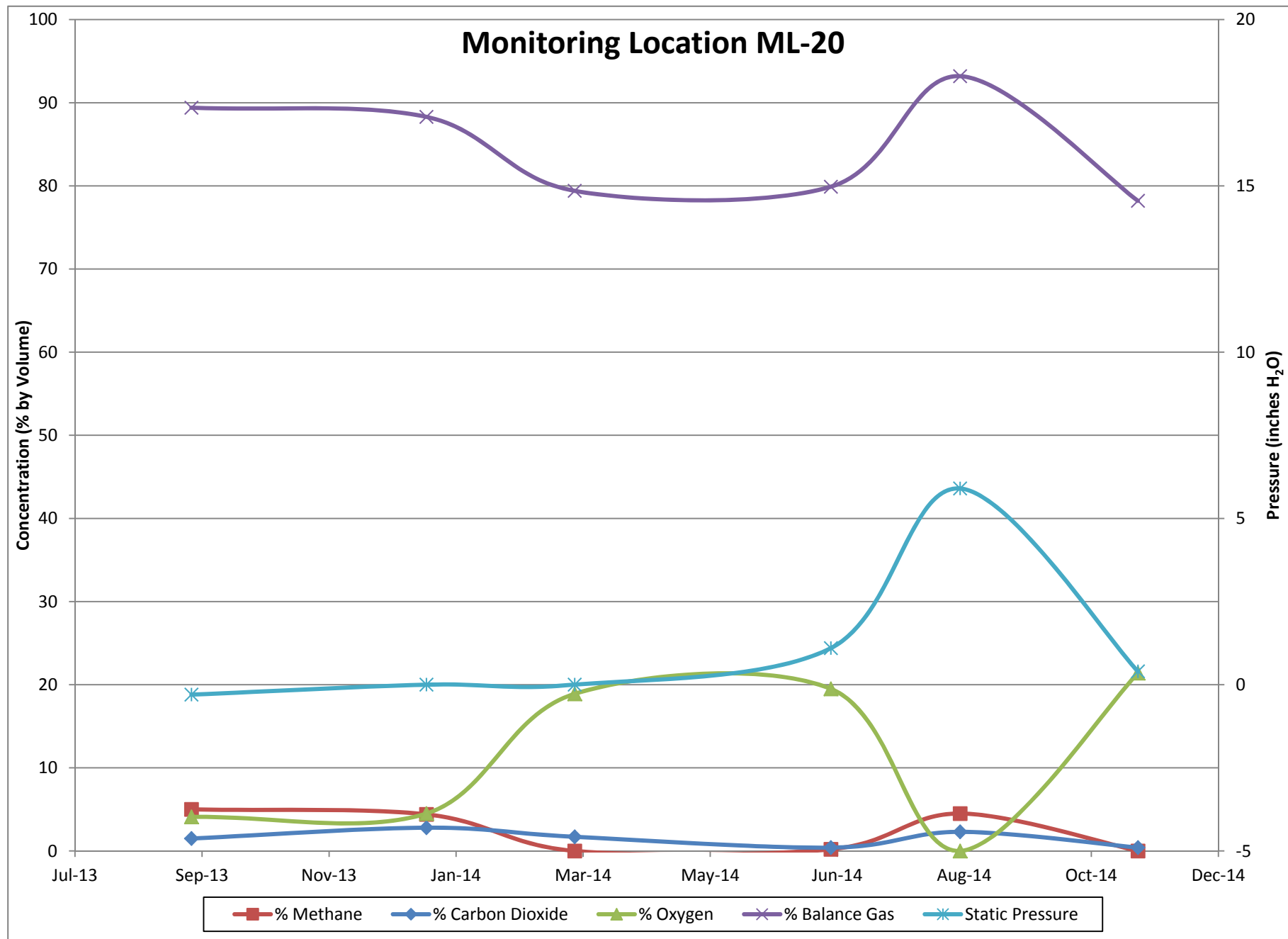


## Monitoring Location ML-13I



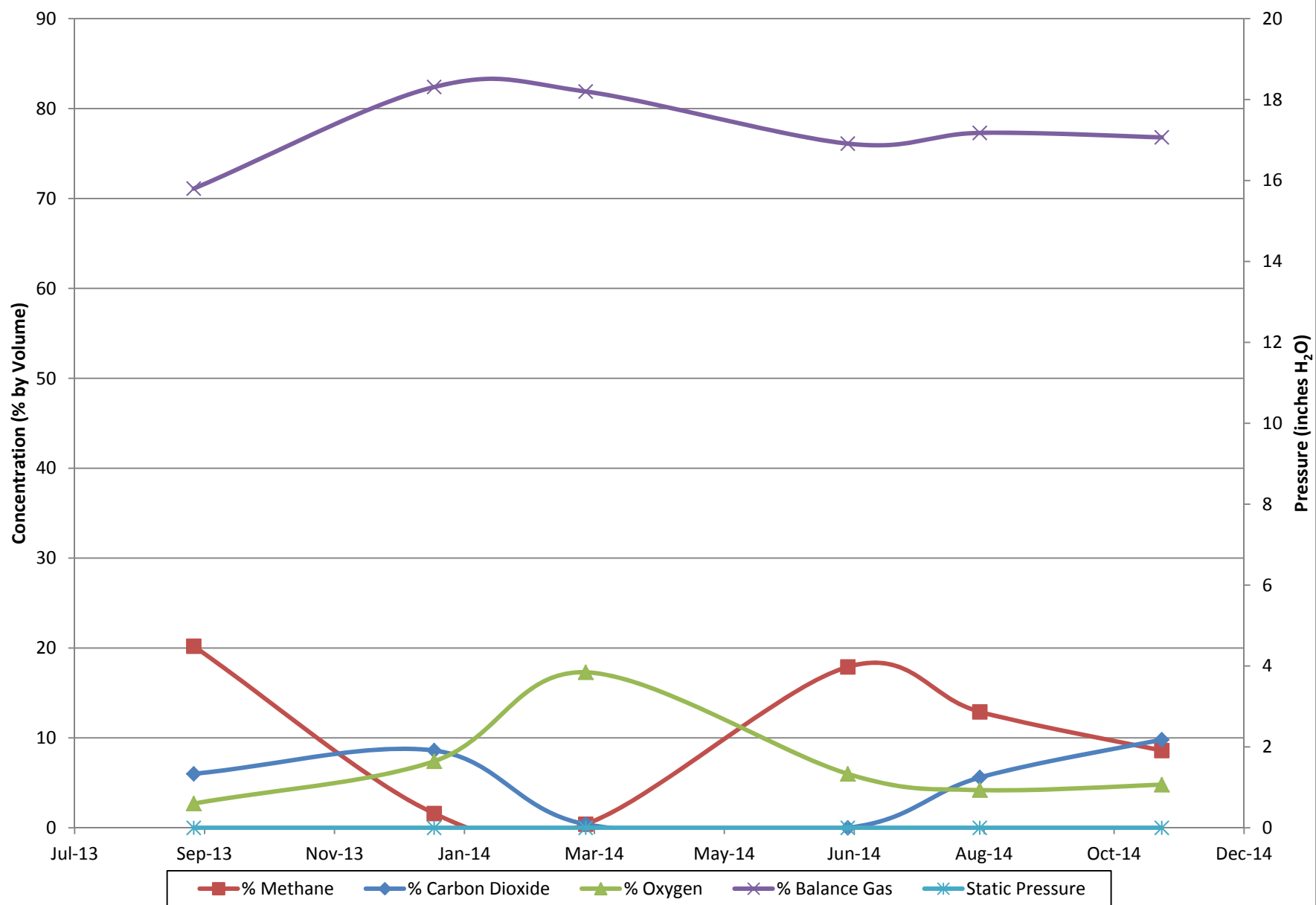
## Monitoring Location ML-13S



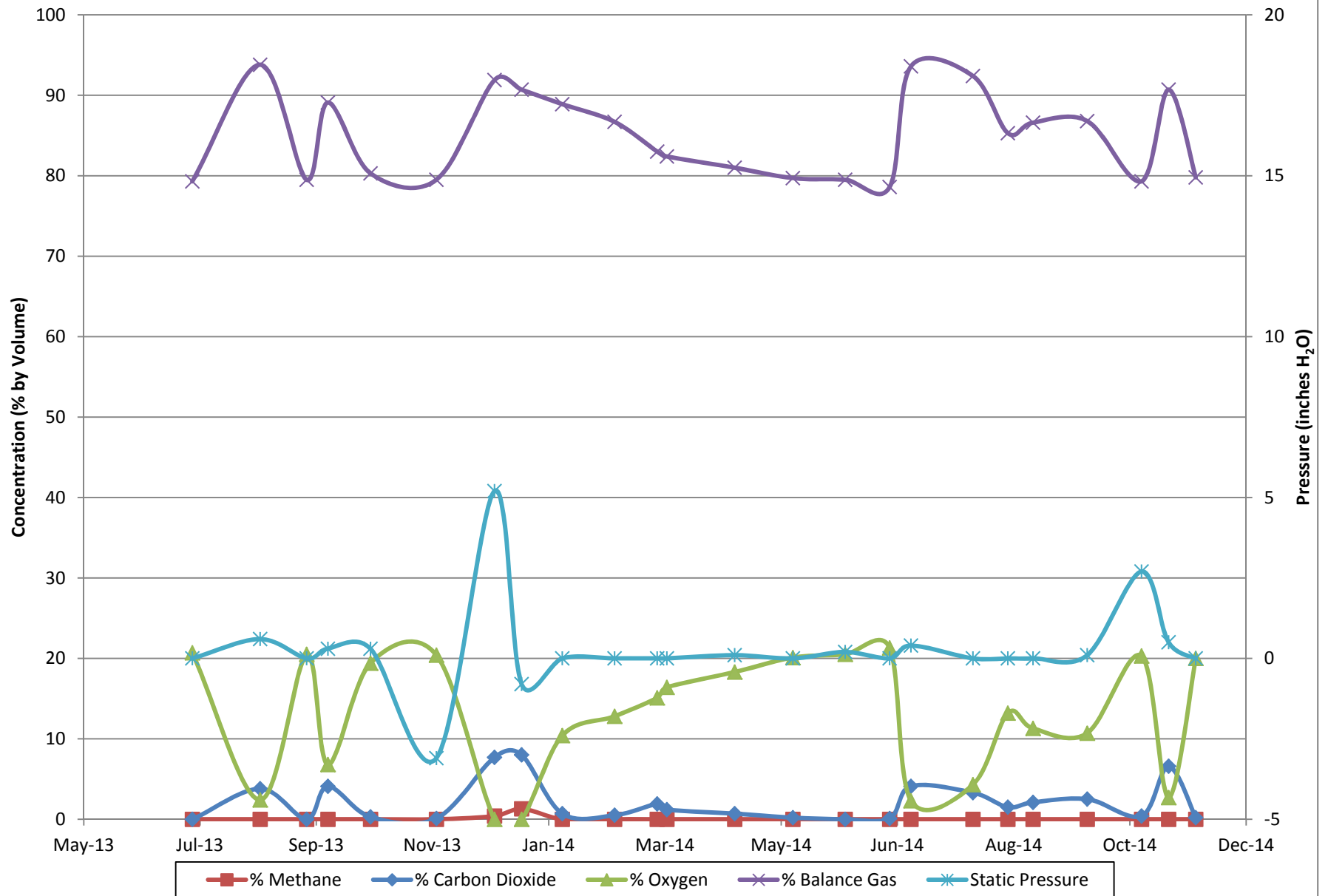




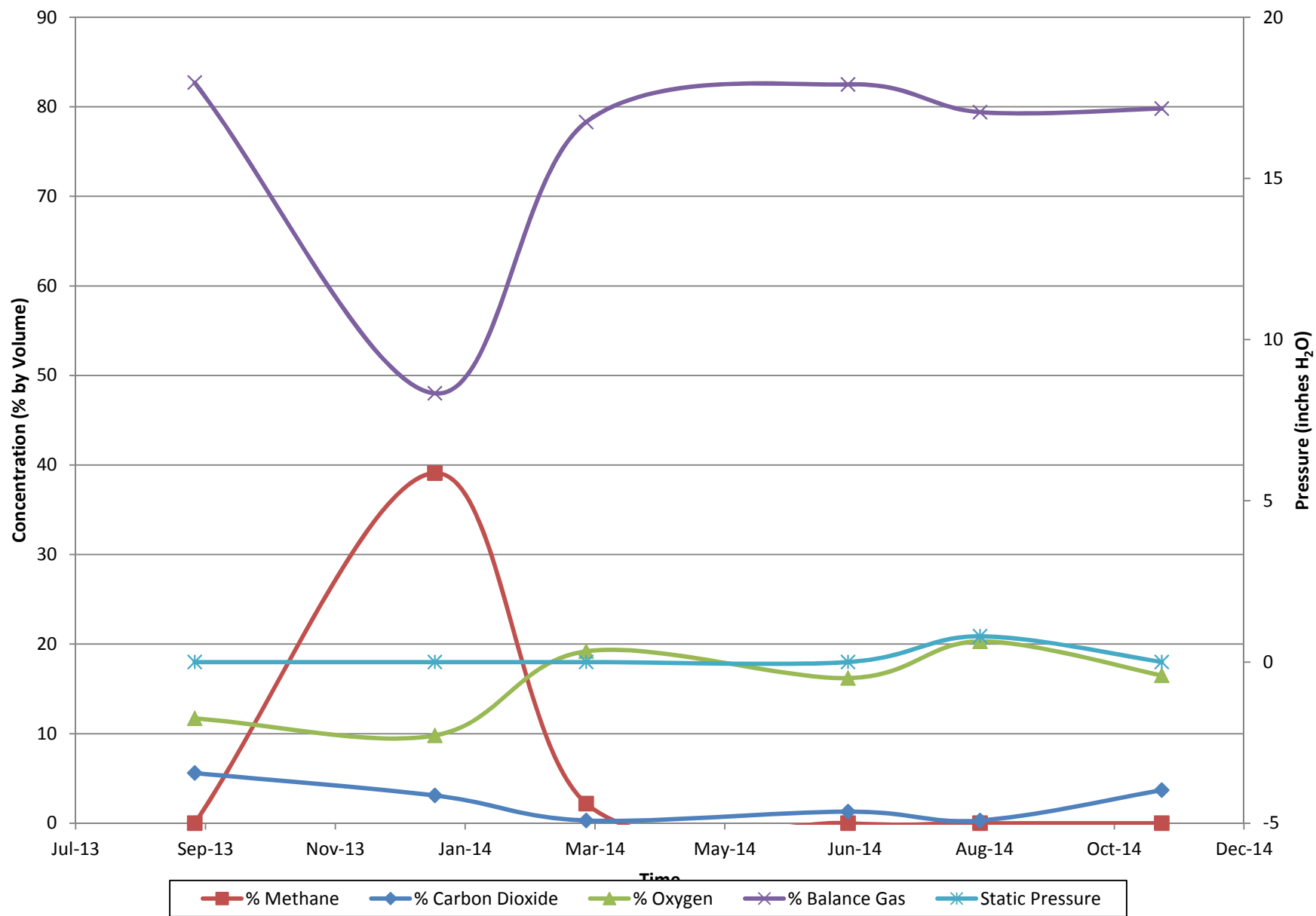
## Monitoring Location ML-23



## Monitoring Location ML-29



## Monitoring Location MW-204 ES



## **Appendix B**

### **Probe and Well Monitoring Data**

Appendix B  
Summary of Quarterly Gas Probe Monitoring Data - July 2013 through December 2014  
Mallard Lake Landfill - NE Area, Hanover Park, DuPage County, IL  
AECOM Project No. 60241563

Probe	Date	Time of measure ment	Static Pressure (inches H2O)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Balance Gas (%)	Post Purge Pressure (inches H2O)	Depth to Water (bMV)	Elevation of Groundwater Surface (ft MSL)	Measured Flow	Qualifier
LDE-13	29-Aug-13	9:09	0.0	80.6	9.3	0.3	9.8	-6.6	48.72 dry	750.51	<1 SCFH	
LDE-13	18-Dec-13	9:34	-0.1	33.8	12.0	3.6	50.6	-9.2	48.70 dry	751.00 dry	<1 SCFH	
LDE-13	26-Feb-14	9:15	-1.3	26.3	12.5	2.0	59.2	-12.4	48.40 dry	751.30 dry	<1 SCFH	
LDE-13	27-Jun-14	9:58	0.0	54.8	8.9	0.3	36.0	-7.0	48.40	751.30	<1 SCFH	
LDE-13	27-Aug-14	11:19	0.2	79.8	10.1	0.6	9.5	-6.4	48.40 dry	750.83	<1 SCFH	
LDE-13	19-Nov-14	11:34	1.2	80.5	13.3	1.4	4.8	-1.9	48.40 dry	750.83	<1 SCFH	
ML-06D	29-Aug-13	10:21	0.0	0.0	0.4	19.2	80.4	-15.0	44.00	748.56		
ML-06D	18-Dec-13	9:25	0.0	0.0	0.2	21.0	78.8	-18.2	45.07	747.49		
ML-06D	26-Feb-14	9:10	0.1	0.0	0.2	21.0	78.8	-10.1	43.35	749.21		
ML-06D	26-Jun-14	14:30	0.0	0.0	0.1	19.8	80.1	21.5	43.10	749.46		
ML-06D	27-Aug-14	10:08	-3.1	0.0	0.2	20.9	78.9	-18.4	41.30	751.26		
ML-06D	19-Nov-14	10:42	0.0	0.0	0.8	18.4	80.8	-10.8	43.20	749.36		
ML-06I	29-Aug-13	10:25	0.0	27.5	9.3	7.9	55.3	-9.8	40.78	751.37	<1 SCFH	
ML-06I	18-Dec-13	9:20	0.0	85.6	12.9	0.0	1.5	-8.0	41.35 dry	750.80 dry	<1 SCFH	
ML-06I	26-Feb-14	9:00	0.1	84.0	13.2	0.0	2.8	-7.8	40.95 dry	751.20 dry	<1 SCFH	
ML-06I	26-Jun-14	14:15	0.3	59.2	9.2	2.5	29.1	-7.9	40.10	752.05	<1 SCFH	
ML-06I	27-Aug-14	9:58	4.8	86.0	11.4	0.2	2.4	-11.3	38.90	753.25	<1 SCFH	
ML-06I	19-Nov-14	10:33	-0.8	86.6	13.3	0.1	0.0	-5.0	39.95	752.20	<1 SCFH	
ML-06S	29-Aug-13	10:30	0.0	0.0	2.6	18.7	78.7	-8.1	14.58 Dry	777.64		
ML-06S	18-Dec-13	9:15	0.0	0.3	4.4	13.2	82.1	-6.5	14.59 dry	777.63 dry		
ML-06S	26-Feb-14	9:05	0.0	0.0	0.5	31.0	68.5	-13.2	14.59 dry	777.63 dry		
ML-06S	26-Jun-14	14:20	0.0	0.0	1.1	18.9	80.0	-5.0	14.20	778.02		
ML-06S	27-Aug-14	10:03	0.1	0.0	0.7	20.3	79.0	-13.1	14.20	778.02		
ML-06S	19-Nov-14	10:38	0.0	0.0	6.7	15.8	77.5	-4.8	14.20	778.02		
ML-08D	29-Aug-13	10:54	-0.1	0.0	0.1	20.8	79.1	-11.9	40.30	750.70		
ML-08D	18-Dec-13	8:45	0.0	0.0	0.2	21.0	78.8	-9.1	41.25	749.75		
ML-08D	26-Feb-14	8:20	0.0	0.0	0.2	21.0	78.8	-7.7	37.38	753.62		
ML-08D	26-Jun-14	13:51	-0.8	0.0	1.1	19.5	79.4	-8.2	39.40	751.60		
ML-08D	27-Aug-14	9:28	0.0	0.0	0.4	20.6	79.0	-12.8	39.00	752.00		
ML-08D	17-Nov-14	11:28	0.0	0.0	1.7	19.2	79.1	-17.5	39.60	751.40		
ML-08I	01-Jul-13	15:45	13.6	79.0	20.2	0.8	0.0	-3.6	NM	NM	<1 SCFH	
ML-08I	05-Aug-13	14:24	1.3	43.5	12.8	8.9	34.8	-8.3	36.45	754.36	<1 SCFH	
ML-08I	29-Aug-13	10:47	0.7	59.3	16.8	5.1	18.8	-10.5	36.45	754.36	<1 SCFH	
ML-08I	09-Sep-13	13:35	0.9	71.6	18.6	2.0	7.6	-8.5	36.51	754.30	<1 SCFH	
ML-08I	01-Oct-13	14:45	0.3	75.8	19.5	0.8	3.9	-5.4	36.90	753.91	<1 SCFH	
ML-08I	04-Nov-13	12:30	0.0	77.2	20.7	0.0	2.1	-6.8	37.55	753.26	<1 SCFH	

Appendix B  
Summary of Quarterly Gas Probe Monitoring Data - July 2013 through December 2014  
Mallard Lake Landfill - NE Area, Hanover Park, DuPage County, IL  
AECOM Project No. 60241563

Probe	Date	Time of measurement	Static Pressure (inches H2O)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Balance Gas (%)	Post Purge Pressure (inches H2O)	Depth to Water (bMV)	Elevation of Groundwater Surface (ft MSL)	Measured Flow	Qualifier
ML-08I	04-Dec-13	12:35	0.0	76.7	20.9	0.0	2.4	-12.8	37.22	753.59	<1 SCFH	
ML-08I	18-Dec-13	8:36	0.0	76.3	20.4	0.3	3.0	-6.8	37.76 dry	753.05 dry	<1 SCFH	
ML-08I	08-Jan-14	13:05	0.0	78.4	13.1	0.0	8.5	-7.4	37.76 dry	753.05 dry	<1 SCFH	
ML-08I	04-Feb-14	12:40	0.4	75.6	12.8	0.0	11.6	-6.7	37.76 dry	753.05 dry	<1 SCFH	
ML-08I	26-Feb-14	8:15	0.0	76.5	21.5	0.0	2.0	-7.0	37.40 dry	753.41 dry	<1 SCFH	
ML-08I	03-Mar-14	14:10	0.0	68.2	20.9	0.0	10.9	-8.2	37.40 dry	753.41 dry	<1 SCFH	
ML-08I	07-Apr-14	14:40	0.7	42.0	13.2	7.8	37.0	-12.4	37.40 Dry	753.41	<1 SCFH	Flow measured outward from probe. Flow not sustained and probe sealed after measurement.
ML-08I	07-May-14	11:00	0.6	47.4	14.0	7.0	31.6	-8.2	37.60	753.21		
ML-08I	03-Jun-14	15:20	0.7	36.8	10.2	9.8	43.2	-7.3	36.70	754.11	<1 SCFH	
ML-08I	26-Jun-14	13:42	3.7	77.4	19.8	0.3	2.5	-6.4	36.40	754.41	<1 SCFH	
ML-08I	07-Jul-14	15:02	1.9	73.4	17.5	0.8	8.3	-6.9	35.80	755.01	<1 SCFH	
ML-08I	08-Aug-14	15:50	0.9	52.7	13.7	6.1	27.5	-8.7	35.90	754.91	<1 SCFH	
ML-08I	27-Aug-14	8:26	0.9	73.6	17.8	1.6	7.0	-7.8	35.80	755.01	<1 SCFH	
ML-08I	08-Sep-14	13:20	0.6	51.0	14.1	6.1	28.8	-9.1	35.80	755.01	<1 SCFH	
ML-08I	06-Oct-14	15:00	2.4	76.4	18.6	0.1	4.9	-5.9	35.45	755.36	<1 SCFH	
ML-08I	03-Nov-14	13:00	6.2	80.1	19.7	0.2	0.0	-0.6	36.10	754.71	<1 SCFH	
ML-08I	17-Nov-14	11:10	2.5	77.9	20.4	1.7	0.0	-6.9	35.90	754.91	<1 SCFH	
ML-08I	01-Dec-14	13:50	3.2	33.0	9.8	10.7	46.5	-8.3	36.10	754.71	<1 SCFH	
ML-08S	29-Aug-13	10:51	0.0	0.0	0.9	20.3	78.8	-7.2	11.50	779.46		
ML-08S	18-Dec-13	8:41	0.0	1.5	1.4	20.0	77.1	-8.4	17.50 dry	773.46 dry		
ML-08S	26-Feb-14	8:20	0.0	2.2	1.6	19.1	77.1	-8.2	17.15 dry	773.81 dry		
ML-08S	26-Jun-14	13:47	0.0	0.0	3.2	17.1	79.7	-9.0	8.40	782.56		
ML-08S	26-Aug-14	14:38	0.1	0.0	2.7	16.0	81.3	-7.6	7.00	783.96		
ML-08S	17-Nov-14	11:22	0.6	0.0	1.9	19.7	78.4	-5.4	12.50	778.46		
ML-09D	29-Aug-13	10:39	0.0	0.0	0.2	20.6	79.2	-14.1	49.78	744.05		
ML-09D	18-Dec-13	8:59	0.0	0.0	0.4	21.0	78.6	-32.5	48.92	744.91		
ML-09D	26-Feb-14	8:40	0.0	0.0	0.4	20.6	79.0	-17.5	46.90	746.93		
ML-09D	26-Jun-14	14:04	0.0	0.0	0.3	20.0	79.7	-11.5	56.90	736.93		
ML-09D	27-Aug-14	9:52	0.1	0.0	1.4	18.3	80.3	-7.5	47.70	746.13		
ML-09D	19-Nov-14	10:15	0.1	0.0	0.4	20.7	78.9	-12.6	47.40	746.43		
ML-09I	29-Aug-13	10:35	-0.8	0.0	0.5	18.9	80.6	-11.1	39.65	754.23		
ML-09I	18-Dec-13	9:03	0.0	10.6	5.4	1.8	82.2	-9.1	41.50	752.38	<1 SCFH	
ML-09I	26-Feb-14	8:35	-0.7	0.7	1.9	12.4	85.0	-8.4	41.20 dry	752.68 dry		
ML-09I	26-Jun-14	13:58	0.1	0.9	3.7	0.4	95.0	-11.6	34.60	759.28		

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Mallard Lake Landfill - NE Area, Hanover Park, DuPage County, IL  
AECOM Project No. 60241563

Probe	Date	Time of measure ment	Static Pressure (inches H2O)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Balance Gas (%)	Post Purge Pressure (inches H2O)	Depth to Water (bMV)	Elevation of Groundwater Surface (ft MSL)	Measured Flow	Qualifier
ML-09I	27-Aug-14	9:43	-1.7	0.0	0.5	18.5	81.0	-12.1	35.40	758.48		
ML-09I	19-Nov-14	10:28	0.0	0.0	0.2	20.7	79.1	-4.2	39.00	754.88		
ML-09S	29-Aug-13	10:43	0.0	0.0	1.2	19.9	78.9	-6.4	15.20	778.66		
ML-09S	18-Dec-13	8:54	0.0	0.0	1.5	19.0	79.5	-7.5	20.00 dry	773.86 dry		
ML-09S	26-Feb-14	8:45	0.0	0.0	2.1	13.4	84.5	-8.1	16.99	776.87		
ML-09S	26-Jun-14	14:08	0.0	0.0	1.6	18.1	80.3	-7.3	6.30	787.56		
ML-09S	27-Aug-14	9:47	0.1	0.0	1.4	19.5	79.1	-15.9	6.20	787.66		
ML-09S	19-Nov-14	10:20	0.0	0.0	2.5	17.8	79.7	-4.8	12.80	781.06		
ML-10D	29-Aug-13	9:21	0.0	0.0	0.3	20.7	79.0	-10.9	54.00	743.63		
ML-10D	18-Dec-13	9:50	0.0	0.0	1.4	19.4	79.2	-13.1	52.95	744.68		
ML-10D	26-Feb-14	9:40	0.0	0.0	0.2	19.0	80.8	-7.2	47.74	749.89		
ML-10D	27-Jun-14	10:12	0.0	0.0	0.3	20.4	79.3	-16.7	50.90	746.73		
ML-10D	27-Aug-14	11:26	0.0	0.0	1.2	19.0	79.8	-15.9	51.65	745.98		
ML-10D	19-Nov-14	11:43	0.1	0.0	1.4	19.4	79.2	-13.7	51.40	746.23		
ML-10I	29-Aug-13	9:25	-0.2	0.0	0.2	20.8	79.0	-10.0	44.80 dry	753.02		
ML-10I	18-Dec-13	9:57	0.0	0.0	0.2	21.0	78.8	-8.4	44.70 dry	753.12 dry		
ML-10I	26-Feb-14	9:30	0.0	0.0	0.3	19.7	80.0	-11.7	44.80 dry	753.02 dry		
ML-10I	27-Jun-14	10:14	0.0	44.5	5.3	0.2	50.0	-7.2	44.00	753.82		
ML-10I	27-Aug-14	11:31	0.0	0.0	1.4	19.6	79.0	-8.8	44.40	753.42		
ML-10I	19-Nov-14	11:47	3.1	44.0	9.1	2.3	44.6	-1.5	44.20	753.62		
ML-10S	29-Aug-13	9:17	0.0	0.0	1.6	19.7	78.7	-8.4	16.40	781.19		
ML-10S	18-Dec-13	9:46	0.0	0.3	1.6	19.0	79.1	-9.9	23.04 dry	774.55 dry		
ML-10S	26-Feb-14	9:35	0.0	0.0	0.2	19.4	80.4	-8.2	23.04 dry	774.55 dry		
ML-10S	27-Jun-14	10:07	-3.4	0.0	1.1	19.5	79.4	-20.3	2.60	794.99		
ML-10S	27-Aug-14	11:24	0.0	0.0	3.2	16.2	80.6	-7.7	3.90	793.69		
ML-10S	19-Nov-14	11:40	0.1	0.0	1.7	19.4	78.9	-5.6	13.03	784.56		
ML-13I	29-Aug-13	9:06	-1.3	3.5	2.3	14.3	79.9	-10.1	47.10 Dry	753.23		
ML-13I	18-Dec-13	10:15	0.0	1.4	5.5	8.9	84.2	-9.6	47.12 dry	753.21 dry		
ML-13I	26-Feb-14	11:35	0.0	0.0	2.4	10.3	87.3	-9.0	46.95 dry	753.38 dry		
ML-13I	27-Jun-14	9:42	0.0	1.1	2.4	9.3	87.2	-5.7	46.65	753.68		
ML-13I	27-Aug-14	10:56	-0.6	0.5	2.8	11.0	85.7	-10.8	46.70	753.63		
ML-13I	19-Nov-14	11:22	0.7	2.5	6.9	4.0	86.6	-2.8	46.66	753.67		
ML-13S	29-Aug-13	9:02	-0.4	0.0	0.2	20.7	79.1	-13.2	30.12 Dry	770.37		
ML-13S	18-Dec-13	10:22	0.0	0.0	2.1	18.4	79.5	-8.4	29.90 dry	770.59 dry		
ML-13S	26-Feb-14	11:40	0.0	0.0	6.7	8.8	84.5	-35.2	26.41	774.08		
ML-13S	27-Jun-14	9:46	0.0	2.6	4.6	0.3	92.5	-21.5	24.40	776.09		

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Probe	Date	Time of measure ment	Static Pressure (inches H2O)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Balance Gas (%)	Post Purge Pressure (inches H2O)	Depth to Water (bMV)	Elevation of Groundwater Surface (ft MSL)	Measured Flow	Qualifier
ML-13S	27-Aug-14	11:01	-0.4	0.0	3.1	13.5	83.4	-22.8	24.30	776.19		
ML-13S	19-Nov-14	11:18	-0.6	0.7	6.6	8.0	84.7	-14.0	26.90	773.59		
ML-14	29-Aug-13	13:55	0.0	0.0	0.2	20.0	79.8	-16.2	6.00	793.09		
ML-14	18-Dec-13	12:51	0.0	0.0	0.2	20.2	79.6	-9.6	6.90	792.19		
ML-14	26-Feb-14	12:55	0.0	0.0	0.6	19.4	80.0	-24.2	6.60	792.49		
ML-14	27-Jun-14	9:29	3.5	0.0	0.2	20.5	79.3	-43.2	2.00	797.09		
ML-14	27-Aug-14	9:06	-1.7	0.0	0.2	20.7	79.1	-29.1	2.00	797.09		
ML-14	19-Nov-14	10:06	0.0	0.0	0.2	21.6	78.2	-5.3	2.00	797.09		
ML-17	29-Aug-13	9:58	0.0	0.0	0.7	19.2	80.1	-6.6	29.42	751.10		
ML-17	18-Dec-13	11:15	0.0	0.0	3.2	16.5	80.3	-9.9	31.72	748.80		
ML-17	26-Feb-14	12:05	0.7	0.0	1.4	18.0	80.6	-10.2	17.30 dry	763.22 dry		
ML-17	27-Jun-14	14:43	0.2	0.0	0.9	19.2	79.9	-17.3	7.80	772.72		
ML-17	27-Aug-14	10:19	0.1	0.0	0.2	19.0	80.8	-8.7	25.20	755.32		
ML-17	19-Nov-14	10:59	0.0	0.0	5.0	9.2	85.8	-5.7	26.60	753.92		
ML-18	29-Aug-13	10:08	0.0	0.0	0.3	20.6	79.1	-9.2	8.90	760.81		
ML-18	18-Dec-13	11:26	0.0	0.0	0.5	20.0	79.5	-8.9	8.00	761.71		
ML-18	26-Feb-14	11:55	0.0	0.0	1.1	18.5	80.4	-6.5	6.05	763.66		
ML-18	27-Jun-14	10:22	0.0	0.0	0.7	20.0	79.3	-15.1	6.02	763.69		
ML-18	27-Aug-14	10:23	0.0	0.0	0.4	20.4	79.2	-10.4	6.00	763.71		
ML-18	19-Nov-14	10:52	0.1	0.0	0.3	20.4	79.3	-9.0	5.60	764.11		
ML-19	29-Aug-13	8:42	0.0	0.0	0.7	16.9	82.4	-21.1	25.28	767.44		
ML-19	18-Dec-13	10:38	0.0	0.0	0.8	18.1	81.1	-17.4	29.65 dry	763.07 dry		
ML-19	26-Feb-14	11:05	0.0	0.0	0.1	19.3	80.6	-11.1	29.29 dry	763.43 dry		
ML-19	27-Jun-14	10:19	-2.0	0.0	0.2	20.6	79.2	-13.4	29.29 dry	763.43 dry		
ML-19	27-Aug-14	11:04	-0.0	0.0	3.1	12.3	84.6	-21.9	29.29 DRY	763.43		
ML-19	19-Nov-14	11:04	NM	NM	NM	NM	NM	NM	NM	NM		Could not find.
ML-20	29-Aug-13	13:49	-0.3	5.0	1.5	4.1	89.4	-31.7	49.35	748.04	<1 SCFH	
ML-20	18-Dec-13	12:44	0.0	4.4	2.8	4.5	88.3	-7.2	49.90	747.49	<1 SCFH	
ML-20	26-Feb-14	13:00	0.0	0.0	1.7	18.9	79.4	-12.3	41.10	756.29		
ML-20	27-Jun-14	9:22	1.1	0.2	0.4	19.5	79.9	-20.2	41.10	756.29		
ML-20	27-Aug-14	9:00	5.9	4.5	2.3	0.0	93.2	-27.9	49.10	748.29	<1 SCFH	
ML-20	19-Nov-14	9:52	0.4	0.0	0.4	21.4	78.2	-15.0	48.30	749.09		
ML-23	29-Aug-13	9:13	0.0	20.2	6.0	2.7	71.1	-13.3	32.00 Dry	765.21	<1 SCFH	
ML-23	18-Dec-13	10:05	0.0	1.6	8.6	7.4	82.4	-7.1	32.02 dry	765.19 dry		
ML-23	26-Feb-14	9:20	0.0	0.4	0.4	17.3	81.9	-9.1	23.01 dry	774.20 dry		



Appendix B  
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Mallard Lake Landfill - NE Area, Hanover Park, DuPage County, IL  
AECOM Project No. 60241563

Probe	Date	Time of measure ment	Static Pressure (inches H2O)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Balance Gas (%)	Post Purge Pressure (inches H2O)	Depth to Water (bMV)	Elevation of Groundwater Surface (ft MSL)	Measured Flow	Qualifier
ML-23	27-Jun-14	9:53	0.0	17.9	0.0	6.0	76.1	-8.2	31.60	765.61	<1 SCFH	
ML-23	27-Aug-14	11:11	0.0	12.9	5.6	4.2	77.3	-8.0	31.62	765.59	<1 SCFH	
ML-23	19-Nov-14	11:28	0.0	8.6	9.8	4.8	76.8	-7.1	37.62	759.59	<1 SCFH	
ML-24	29-Aug-13	11:14	0.3	0.0	1.0	18.5	80.5	-37.4	19.40	768.25		
ML-24	18-Dec-13	12:22	0.0	0.0	1.7	17.9	80.4	-42.5	20.20	767.45		
ML-24	26-Feb-14	12:45	0.0	0.0	3.0	18.8	78.2	-40.6	15.20	772.45		
ML-24	26-Jun-14	10:33	0.0	0.0	0.3	20.8	78.9	-23.6	20.00	767.65		
ML-24	26-Aug-14	14:21	-0.3	0.0	1.2	17.6	81.2	-34.4	19.68	767.97		
ML-24	17-Nov-14	13:57	-0.5	0.0	0.7	19.1	80.2	-23.7	19.50	768.15		
ML-26S	29-Aug-13	11:03	-0.3	0.0	0.1	20.7	79.2	-29.7	16.16	764.24		
ML-26S	18-Dec-13	13:11	-1.9	0.0	0.4	20.3	79.3	-54.4	17.68	762.72		
ML-26S	26-Feb-14	12:25	0.0	0.0	1.8	18.3	79.9	-28.4	10.15	770.25		
ML-26S	26-Jun-14	10:38	0.0	0.0	0.1	21.3	78.6	-12.4	14.60	765.80		
ML-26S	26-Aug-14	14:28	-0.3	0.0	0.6	19.2	80.2	-45.1	14.20	766.20		
ML-26S	17-Nov-14	14:04	-3.6	0.0	0.8	19.6	79.6	-38.0	13.60	766.80		
ML-29	01-Jul-13	15:55	0.0	0.0	0.0	20.7	79.3	-12.6	18.60	769.86		
ML-29	05-Aug-13	14:36	0.6	0.0	3.8	2.4	93.8	-11.2	18.60	769.86		
ML-29	29-Aug-13	11:12	0.0	0.0	0.0	20.5	79.5	-10.5	18.80	769.66		
ML-29	09-Sep-13	13:20	0.3	0.0	4.1	6.8	89.1	-13.2	18.76	769.70		
ML-29	01-Oct-13	14:55	0.3	0.0	0.3	19.4	80.3	-8.4	18.95	769.51		
ML-29	04-Nov-13	12:15	-3.1	0.0	0.1	20.4	79.5	-12.5	19.27	769.19		
ML-29	04-Dec-13	12.2	5.2	0.4	7.7	0.0	91.9	-3.8	18.80	769.66		
ML-29	18-Dec-13	12:28	-0.8	1.3	8.0	0.0	90.7	-10.6	19.36	769.10		
ML-29	08-Jan-14	12:50	0.0	0.0	0.7	10.4	88.9	-8.4	19.30	769.16		
ML-29	04-Feb-14	12:15	0.0	0.0	0.5	12.8	86.7	-9.2	19.21	769.25		
ML-29	26-Feb-14	12:35	0.0	0.0	1.9	15.1	83.0	-7.7	19.28 dry	769.18 dry		
ML-29	03-Mar-14	13:55	0.0	0.0	1.2	16.4	82.4	-8.0	19.28 dry	769.18 dry		
ML-29	07-Apr-14	14:20	0.1	0.0	0.7	18.3	81.0	-9.9	19.30 Dry	769.16		
ML-29	07-May-14	10:30	0.0	0.0	0.2	20.1	79.7	-1.2	19.30	769.16		
ML-29	03-Jun-14	15:30	0.2	0.0	0.0	20.5	79.5	-10.4	19.30	769.16		
ML-29	26-Jun-14	10:30	0.0	0.0	0.1	21.3	78.6	-10.8	19.15	769.31		
ML-29	07-Jul-14	14:48	0.4	0.0	4.1	2.3	93.6	-8.1	19.20	769.26		
ML-29	08-Aug-14	15:00	0.0	0.0	3.3	4.3	92.4	-7.6	18.80	769.66		
ML-29	26-Aug-14	14:16	0.0	0.0	1.5	13.2	85.3	-9.6	18.80	769.66		
ML-29	08-Sep-14	13:10	0.0	0.0	2.1	11.3	86.6	-7.4	18.70	769.76		
ML-29	06-Oct-14	14:50	0.1	0.0	2.5	10.7	86.8	-6.0	18.55	769.91		

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Probe	Date	Time of measure ment	Static Pressure (inches H2O)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Balance Gas (%)	Post Purge Pressure (inches H2O)	Depth to Water (bMV)	Elevation of Groundwater Surface (ft MSL)	Measured Flow	Qualifier
ML-29	03-Nov-14	13:20	2.7	0.0	0.4	20.3	79.3	-3.6	18.80	769.66		
ML-29	17-Nov-14	13:50	0.5	0.0	6.6	2.7	90.7	-7.0	18.73	769.73		
ML-29	01-Dec-14	13:40	0.0	0.0	0.2	20.0	79.8	-6.4	18.95	769.51		
ML-29S	01-Jul-13	16:03	0.0	0.0	0.0	20.8	79.2	-37.7	2.20	786.22		
ML-29S	05-Aug-13	14:50	0.0	0.0	0.1	20.9	79.0	-34.4	2.67	785.75		
ML-29S	29-Aug-13	11:08	0.1	0.0	0.1	20.6	79.3	-29.6	4.3	784.12		
ML-29S	09-Sep-13	13:15	0.1	0.0	0.1	20.5	79.4	-26.1	3.45	784.97		
ML-29S	01-Oct-13	15:00	0.2	0.0	0.0	20.2	79.8	-25.4	3.60	784.82		
ML-29S	04-Nov-13	12:20	0.1	0.0	0.1	20.7	79.2	-25.2	3.88	784.54		
ML-29S	04-Dec-13	12:15	0.0	0.0	0.1	20.7	79.2	-24.5	2.70	785.72		
ML-29S	18-Dec-13	12:31	0.0	0.0	0.3	20.0	79.7	-26.8	4.25	784.17		
ML-29S	08-Jan-14	12:45	0.0	0.0	0.3	20.4	79.3	-24.6	4.21	784.21		
ML-29S	04-Feb-14	12:25	0.0	0.0	0.2	20.5	79.3	-27.8	3.90	784.52		
ML-29S	26-Feb-14	12:40	0.1	0.0	0.4	18.8	80.8	-37.3	4.58	783.84		
ML-29S	03-Mar-14	14:00	0.0	0.0	0.2	19.0	80.8	-28.6	4.63	783.79		
ML-29S	07-Apr-14	14:25	0.7	0.0	0.1	20.3	79.6	-13.1	2.07	786.35		
ML-29S	07-May-14	10:20	-6.5	0.0	0.0	20.8	79.2	-19.0	2.70	785.72		
ML-29S	03-Jun-14	15:40	0.0	0.0	0.0	20.4	79.6	-11.8	1.80	786.62		
ML-29S	26-Jun-14	10:25	0.1	0.0	0.1	21.3	78.6	-22.3	1.70	786.72		
ML-29S	07-Jul-14	14:38	0.2	0.0	0.0	19.1	80.9	-17.2	1.40	787.02		
ML-29S	08-Aug-14	16:10	-0.5	0.0	0.0	20.4	79.6	-21.0	2.50	785.92		
ML-29S	26-Aug-14	14:14	0.0	0.0	0.0	20.1	79.9	-23.7	1.80	786.62		
ML-29S	08-Sep-14	13:00	-2.1	0.0	0.3	20.5	79.2	-37.8	2.10	786.32		
ML-29S	06-Oct-14	14:40	0.3	0.0	0.2	20.4	79.4	-27.2	2.40	786.02		
ML-29S	03-Nov-14	13:30	0.0	0.0	0.2	20.9	78.9	-18.6	3.30	785.12		
ML-29S	17-Nov-14	13:45	0.0	0.0	0.2	19.4	80.4	-17.7	4.25	784.17		
ML-29S	01-Dec-14	13:30	0.0	0.0	0.2	19.9	79.9	-20.5	2.90	785.52		
ML-32	29-Aug-13	13:45	0.0	0.0	0.3	20.3	79.4	-8.0	24.60	772.25		
ML-32	18-Dec-13	12:37	-0.8	0.0	5.3	2.2	92.5	-7.4	26.49	770.36		
ML-32	26-Feb-14	13:05	0.0	0.0	0.2	19.6	80.2	-13.3	3.84	793.01		
ML-32	27-Jun-14	9:15	3.9	0.0	4.3	1.2	94.5	-5.2	24.30	772.55		
ML-32	27-Aug-14	8:54	3.7	0.0	4.3	0.6	95.1	-7.4	23.30	773.55		
ML-32	19-Nov-14	9:46	2.5	0.0	5.4	0.3	94.3	-3.6	22.60	774.25		
ML-37	29-Aug-13	9:31	0.0	0.0	1.0	18.4	80.6	-8.6	12.75	763.45		
ML-37	18-Dec-13	10:53	0.0	0.0	1.0	18.7	80.3	-9.0	19.80 dry	756.40 dry		
ML-37	26-Feb-14	9:50	0.0	0.0	0.4	17.5	82.1	-9.2	6.96	769.24		

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AECOM Project No. 60241563

Probe	Date	Time of measurement	Static Pressure (inches H <sub>2</sub> O)	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Balance Gas (%)	Post Purge Pressure (inches H <sub>2</sub> O)	Depth to Water (bMV)	Elevation of Groundwater Surface (ft MSL)	Measured Flow	Qualifier
ML-37	27-Jun-14	10:24	-2.1	0.0	0.1	20.7	79.2	-15.1	6.50	769.70		
ML-37	27-Aug-14	NM	NM	NM	NM	NM	NM	NM	NM	NM		Buried under brush, unable to find.
ML-37	19-Nov-14	12:04	0.3	0.0	0.3	20.0	79.7	-31.3	6.40	769.80		
ML-38	29-Aug-13	9:36	0.0	0.0	2.8	13.8	83.4	-8.8	15.15	769.94		
ML-38	18-Dec-13	11:01	0.0	0.0	4.5	15.2	80.3	-8.7	17.28 dry	767.81 dry		
ML-38	26-Feb-14	9:55	0.0	0.0	0.3	18.3	81.4	-15.8	5.31	779.78		
ML-38	27-Jun-14	10:04	-3.0	0.0	1.6	18.8	79.6	-20.0	4.76	780.33		
ML-38	27-Aug-14	NM	NM	NM	NM	NM	NM	NM	NM	NM		Buried under brush, unable to find.
ML-38	19-Nov-14	12:09	0.2	0.0	6.7	5.2	88.1	-22.0	9.00	776.09		
MW-204ES	29-Aug-13	10:14	0.0	0.0	5.6	11.7	82.7	-7.9	18.00	754.27		
MW-204ES	18-Dec-13	11:35	0.0	39.1	3.1	9.8	48.0	-14.7	19.05 dry	753.22 dry	<1 SCFH	
MW-204ES	26-Feb-14	12:10	0.0	2.2	0.3	19.2	78.3	-31.2	3.53	768.74		
MW-204ES	27-Jun-14	14:52	0.0	0.0	1.3	16.2	82.5	-26.2	8.40	763.87		
MW-204ES	27-Aug-14	10:34	0.8	0.0	0.3	20.3	79.4	-28.3	5.80	766.47		
MW-204ES	19-Nov-14	11:06	0.0	0.0	3.7	16.5	79.8	-7.5	16.47	755.80		